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MILITARY STANDARD

LISTS OF STANDARD

SEMICONDUCTOR DEVICES



AMSC N/A

FSC 5961

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DEPARTMENT OF DEFENSE
WASHINGTON, D.C. 20301

Lists of Standard Semiconductor Devices.

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CONTENTS

Paragraph		Page
1.	SCOPE - - - - -	1
1.1	Purpose - - - - -	1
1.2	Scope - - - - -	1
2.	REFERENCED DOCUMENTS- - - - -	1
2.1	Issues of documents - - - - -	1
3.	DEFINITIONS - - - - -	1
4.	GENERAL REQUIREMENTS- - - - -	1
4.1	Selection of semiconductor devices- - - - -	1
4.2	Use of semiconductor devices- - - - -	1
4.2.1	Controlled characteristics- - - - -	1
4.2.2	Correlation of circuit requirements and detail specification test conditions - - - - -	1
4.3	Criteria for inclusion in this standard - - - - -	1
4.4	Lists of semiconductor devices- - - - -	2
4.4.1	TX types and TXV types- - - - -	2
4.4.1.1	Air Force use of JANTX and JANTXV types - - - - -	2
4.4.2	Reverse polarity types- - - - -	2
4.5	Conflict of data- - - - -	2
5.	DETAILED REQUIREMENTS (not applicable)- - - - -	2
6.	NOTES - - - - -	2
6.1	International standardization agreement - - - - -	2
6.2	Parameter values- - - - -	2
6.3	Qualified products list - - - - -	2

TABLES

Table I	Switching diodes- - - - -	3
II	Axial-lead power rectifiers - - - - -	4
III	Fast-recovery rectifiers- - - - -	5
IV	Power rectifiers- - - - -	6
V	Schottky diodes - - - - -	7
VI	High-voltage rectifier assemblies - - - - -	8
VII	High current, full wave, bridge rectifiers - - - - -	9
VIII	Multiple diode arrays - - - - -	10
IX	Voltage reference diodes- - - - -	11
X	Voltage regulator diodes- - - - -	12-13
XI	Voltage-variable capacitor diodes - - - - -	14
XII	Current regulator diodes- - - - -	15
XIII	Transient suppressor diodes - - - - -	16-17
XIV	Light emitting diodes - - - - -	18
XV	Thyristors (silicon controlled rectifiers)- - - - -	19
XVI	Optical coupled isolators - - - - -	20
XVII	NPN low-power transistors - - - - -	21
XVIII	PNP low-power transistors - - - - -	22
XIX	NPN power transistors - - - - -	23
XX	PNP power transistors - - - - -	24
XXI	RF transistors- - - - -	25
XXII	Dual transistors (differential amplifier) - - - - -	26
XXIII	Dual transistors- - - - -	27
XXIV	Darlington transistors- - - - -	28
XXV	Unijunction transistors - - - - -	29
XXVI	Junction field effect transistors - - - - -	30
XXVII	Low-power chopper transistors - - - - -	31
XXVIII	MOS FET, power- - - - -	32
XXIX	Numerical listing of diodes, diode arrays, and bridge rectifiers- - - - -	33-36
XXX	Numerical listing of thyristors - - - - -	37
XXXI	Numerical listing of transistors- - - - -	38-39

I. SCOPE

I.1 Purpose. The purpose of this standard is as follows:

- a. To provide equipment designers and manufacturers with lists of semiconductor devices considered to be standard for military applications.
- b. To control and minimize the variety of semiconductor devices used by military activities in order to facilitate effective logistic support of equipment in the field; to maximize economic support of, and to concentrate improvement on, production of the semiconductor devices listed in this standard.

I.2 Scope. This standard establishes the requirements for the selection of semiconductor devices used in the design and manufacture of military equipment.

2. REFERENCED DOCUMENTS

2.1 Government documents.

2.1.1 Specifications. The following specification, forms a part of this specification to the extent specified herein. Unless otherwise specified, the issues of these documents shall be those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation.

SPECIFICATIONS

MILITARY

MIL-S-19500 - Semiconductor Devices, General Specification for.

(Copies of the specification, required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting activity.)

3. DEFINITIONS

3.1 The terms used in this standard are defined in MIL-S-19500.

4. GENERAL REQUIREMENTS

4.1 Selection of semiconductor devices. Semiconductor device types must be selected from those types listed in this standard. The variety of semiconductor devices used in any military equipment shall be the minimum necessary to provide satisfactory performance.

4.2 Use of semiconductor devices.

4.2.1 Controlled characteristics. Satisfactory equipment performance shall depend only on a semiconductor device characteristic which is controlled by the applicable MIL-S-19500 detail specification.

4.2.2 Correlation of circuit requirements and detail specification test conditions. When an application condition varies widely from the detail specification test condition(s), it shall be the responsibility of the contractor to establish satisfactory correlation between the circuit requirements and the detail specification requirements.

4.3 Criteria for inclusion in this standard.

- a. The semiconductor device shall be considered by representatives of the military departments, the best available type for current application.
- b. Continued availability of the semiconductor device shall be reasonably certain.
- c. The semiconductor device shall have an approved military specification.

4.4 Lists of semiconductor devices. Tables included herein list the ratings and primary electrical characteristics and applicable specification number for all semiconductor devices approved as standard for use in the design and manufacture of military equipment. (Complete detailed requirements for semiconductor devices listed in this standard are covered in the applicable detail specification.) All devices listed herein are silicon types except for the devices listed in table XIV and XV.

4.4.1 TX and TXV types. Only the JANTX and JANTXV versions of semiconductor device types listed herein are approved for use. The prefix JANTX is used on devices which have been submitted to and have passed special process-conditioning, testing and screening and the prefix JANTXV is used on devices which have been submitted to a visual precap inspection in addition to the process-conditioning, testing and screening.

4.4.1.1 Dash one (-1) parts. Where dash one (-1) parts are available on the detail specification and listed on QPL-19500, they shall be considered to be the preferred types.

4.4.2 Reverse polarity types. The reverse polarity versions of semiconductor device types listed herein, are also approved for use.

4.5 Conflict of data. In the event of conflict between the technical description of semiconductor devices listed in this standard and the applicable specification, the specification shall govern.

5. DETAILED REQUIREMENTS (not applicable).

6. NOTES .

6.1 International standardization agreements. Certain provisions of this standard are the subject of international standardization agreement NATO Electronic Parts Recommendation (NEPR) 19. When revision or cancellation of this standard is proposed which will affect or violate the international agreement concerned, the preparing activity will take appropriate reconciliatory action through international standardization channels, including departmental standardization offices, if required.

6.2 Parameter values. Every reasonable effort is made to insure that this standard lists the most recent parameter values for the devices listed. However, users are cautioned to verify all values against the current revision of the applicable detail specification.

6.3 Qualified products list. Some of the device types listed in this standard may not be listed on QPL-19500. The preparing activity may be contacted to obtain the up-to-date status of the QPL. (See procedures and notes in QPL-19500.)

6.4 Subject terms (key word) listing.

Semiconductor device

Diode

Rectifier

Transistor

Thyristor

TABLE I. Switching diodes (listed in order of increasing t_{rr}).

Device type no.	Time $t_{rr}^{(max)}$ (ns)	V_{RMN}		I_R at V_{RMN}		I_F to I_R	C (max) (μF)	JEDEC outline 1/	Specification MIL-S-19500/
		V_F at I_F (Vdc)	V_F at I_F (V_{pk})	(mA)	(μA)				
IN4454-1	4.0	50	1.0	10	0.1	100	$I_F = I_R = 10 \text{ mA}$	2.0	0035
IN4153-1	4.0	50	0.880	20	0.05	50	$I_F = I_R = 10 \text{ mA}$	2.0	0035
IN4150-1	4.0	50	1.0	200	0.1	100	$I_F = I_R = 10 \text{ mA to } 200 \text{ mA}$	2.5	0035
IN4148-1	5.0	75	1.0	10	0.5	100	$I_F = I_R = 10 \text{ mA}$	4.0	0035
IN4938-1	50.0	175	1.0	100	0.1	100	$I_F = I_R = 10 \text{ mA}$	5.0	0035
IN5711 2/	3/	50	1.0	15	0.2	200	$I_F = I_R = 10 \text{ mA}$	0.3	0035
IN5712 2/	3/	16	1.0	35	0.15	100	$I_F = I_R = 10 \text{ mA}$	0.3	0035
IN5719 4/	5/	*100	1.0	100	0.25	15	$I_F = I_R = 10 \text{ mA}$	0.3	0035

1/ Mechanical configurations of devices are equal or similar to referenced JEDEC outlines.

2/ Schottky barrier type.

3/ Minority carrier lifetime equals 100 picoseconds, max.

4/ PIN type.

5/ Effective carrier lifetime equals 100 ns, min.

TABLE III. Axial-lead power rectifiers.

Device type no.	VRMM	Maximum VFM at IF (Vpk) / (V dc)	Maximum IR at VRMM at 25°C at TA 100°C	Maximum		JEDEC outline 1/ MIL-S-19500/	Specification
				at 55°C	FWD I 1 cyc avg (A dc)		
IN5551	400	*1.2	*92/	1.0	75	3.0	00204
IN5552	600	*1.2	*92/	1.0	75	3.0	00204
IN5553	800	*1.3	*92/	1.0	75	3.0	00204
IN5554	1000	*1.3	*92/	1.0	75	3.0	00204
IN5616	400	1.2	1	0.5	25	1.0	00204
IN5618	600	1.2	1	0.5	25	1.0	00204
IN5620	800	1.2	1	0.5	25	1.0	00204
IN5622	1000	1.2	1	0.5	25	1.0	00204

V/ $\frac{V}{2}$ Mechanical configurations of devices are equal or similar to referenced JEDEC outlines.
 2/ Duty cycle \leq 2 percent, $t_p = 1/120$ s.

TABLE III. Fast-recovery rectifiers (listed in order of t_{rr} .)

Device type no.	Recovery time t_{rr} (ns)	V_{RWM} (V)	$I_0 \text{ at } T_A = 55^\circ\text{C}$	$I_{FSW} \text{ at } T_A = 100^\circ\text{C}$	Max reverse current at rated V_R at			Specification MIL-S-19500/
					$T_A = 25^\circ\text{C}$	$*T_C = 100^\circ\text{C}$	$*T_C = 150^\circ\text{C}$	
IN5804	25	100	1	35	1.0			Axial 477
IN5806	25	150	1	35	1.0			Axial 477
IN5809	30	100	3	125	5.0			Axial 477
IN5811	30	150	3	125	5.0			Axial 477
IN5814	35	100	*20	250	10.0	500	2/ D04	478
IN5816	35	150	*20	250	10.0	500	2/ D04	478
IN6304	50	50	70	1000	25.0			Z/ D05 550
IN6305	50	100	70	1000	25.0			Z/ D05 550
IN6306	50	150	70	1000	25.0			Z/ D05 550
IN5615	150	200	1	25	0.5	25	Axial	429
IN5417	150	200	3	50	1.0	20	Axial	411
IN5617	150	400	1	25	0.5	25	Axial	429
IN5418	150	400	3	50	1.0	20	Axial	411
IN3891	200	200	*12	150	25.0	*3000	2/ D04	304
IN3911	200	200	*30	300	80.0	*100000	Z/ D05	308
IN5893	200	400	*12	150	25.0	*3000	2/ D04	304
IN3913	200	400	*30	300	80.0	*100000	Z/ D05	308
IN5419	250	500	3	50	1.0	20	Axial	411
IN5619	250	600	1	25	0.5	25	Axial	429
IN5621	300	800	1	25	0.5	25	Axial	429
IN5420	400	600	3	50	1.0	20	Axial	411
IN5623	500	1000	1	25	0.5	25	Axial	429

1/ Mechanical configurations of devices are equal or similar to referenced JEDEC outlines.
 Z/ Straight and reverse polarity types available.

TABLE IV. Power rectifiers (listed in order of maximum DC output current).

Device type no.	I_o at $T_c = 150^\circ C$ (A dc)	V_{RMM} (Vpk)	I_{FSM} at $1/120$ s (A)	Maximum I_R at V_{RMM}			JEDEC outline 1L.2/	Specification MIL-S-19500/
				$T_c = 25^\circ C$	$T_c = 150^\circ C$	$T_c = 150^\circ C$		
IN1202A	12	200	240	50 μA	1 mA	1 mA	D04	260
IN1204A	12	400	240	50 μA	1 mA	1 mA	D04	260
IN1206A	12	600	240	50 μA	1 mA	1 mA	D04	260
IN3671A	12	800	240	50 μA	1 mA	1 mA	D04	260
IN3673A	12	1000	240	50 μA	1 mA	1 mA	D04	260
IN1186	35	200	500	250 μA	3 mA	3 mA	D05	297
IN1188	35	400	500	250 μA	3 mA	3 mA	D05	297
IN1190	35	600	500	250 μA	3 mA	3 mA	D05	297
IN3766	35	800	500	250 μA	3 mA	3 mA	D05	297
IN3768	35	1000	500	250 μA	3 mA	3 mA	D05	297

1/ Mechanical configuration of devices are equal or similar to referenced JEDEC outlines.
 2/ Straight and reverse types available.

TABLE V. Schottky power rectifiers.

Device type no.	V_{RWM}	Maximum V_{FN} at I_{FN}	I_R at V_{RWM}	Maximum I_0		Maximum T_{top} (°C)	JEDEC outline	Specification MIL-S-19500/
				at 25°C	at $TA = 175^{\circ}\text{C}$ $*T_C = 125^{\circ}\text{C}$ $*T_C = 115^{\circ}\text{C}$			
IN6391	45	.68 .82	50 120	15	400 600	22.5 *54.0	D04 D05	553 554
IN6392	45	.82	120	20		175		

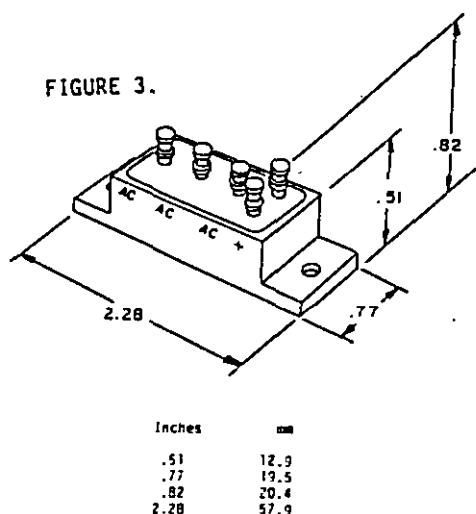
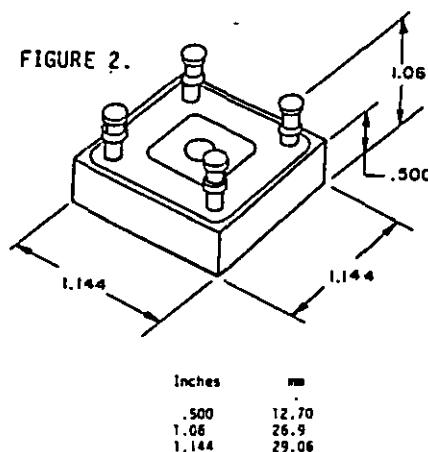
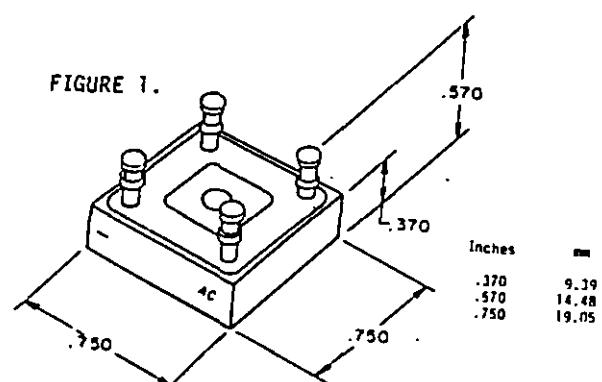
TABLE VI. High-voltage rectifier assemblies (listed in order of increasing reverse voltage).

Device type no.	V_{RHM} (V dc)	I_0 (max) at T_A (mA)	I_{FSW} at 1/120 s (A)	T_A ($^{\circ}$ C)	Maximum T_R at V_{BPM} at T_A 25 (μ A)	Outline	Specification MIL-S-19500/
1N3644	1500	5.0	250	25	14	25	279
1N3645	2000	5.0	250	25	14	25	279
1N3646	2500	5.0	250	25	14	25	279
1N3647	3000	5.0	250	25	14	25	279

1/ Cylindrical .315 inch x .090 inch maximum.

TABLE VII. High current, full wave, bridge rectifiers
Listed in order of increasing I_0 .

Phase	Device type no.	I_0 at $T_C = 55^\circ C$ $*T_L = 55^\circ C$ (A)	t_{FSM} $t_p = 8.3$ ms at $T_C = 55^\circ C$ $*T_L = 55^\circ C$ (μ s) (pk)	Maximum reverse current T_A at $25^\circ C$ I_R at V_R (μ A) (V)	Case style	Specification MIL-S-19500/
Single	M19500/469-01	10	100	2 200	—	469
Single	M19500/469-02	10	100	2 400	figure 1	469
Single	M19500/469-03	10	100	2 600	—	469
Single	SPA25	25	150	2 100	—	446
Single	SPB25	25	150	2 200	figure 2	446
Single	SPC25	25	150	2 400	—	446
Single	SPD25	25	150	2 600	—	446
Three	M19500/483-01	25	150	2 200	—	483
Three	M19500/483-02	25	150	2 400	figure 3	483
Three	M19500/483-03	25	150	2 600	—	483



NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Dimensions are nominal.

TABLE VIII. Multiple diode arrays (individual diode ratings).

Device type no.	I_0	I_{FSN}	V_F at I_F	I_R at V_R	t_{rr}	C_T	Outline and schematic \downarrow	Specification MIL-S-19500/
	$T_A = 25^\circ C$	$t_{=1s}^{1s}$ V_{Adc}	(Vdc)	(μ Adc)	(Vdc)	(ns)	(pF)	
1N6101	200	1.0	1.0	100	.025	20	5	3 DIP 517

\downarrow Schematic configuration appears on bottom of this page.

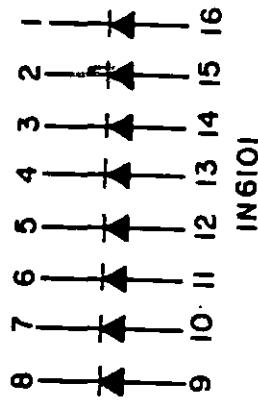


TABLE IX. Voltage reference diodes (listed in order of voltage range).

Device type no.	Reference voltage range		Voltage temp stability $\Delta V(BR)$ (V)	Dynamic impedance		Max temp (°C)	JEDEC outline 1/	Specification MIL-S-19500/
	V(BR) Min (V)	V(BR) Max (V)		Z (ohms)	at Z (mA)			
IN821-1	5.90	6.50	0.096	15	7.5	175	D07	159
IN823-1	5.90	6.50	0.048	15	7.5	175	D07	159
IN825-1	5.90	6.50	0.019	15	7.5	175	D07	159
IN827-1	5.90	6.50	0.009	15	7.5	175	D07	159
IN829-1	5.90	6.50	0.005	15	7.5	175	D07	159
IN4565A	6.08	6.72	0.100	200	0.5	175	D07	452
IN4566A	6.08	6.72	0.050	200	0.5	175	D07	452
IN4567A	6.08	6.72	0.020	200	0.5	175	D07	452
IN4568A	6.08	6.72	0.010	200	0.5	175	D07	452
IN4569A	6.08	6.72	0.005	200	0.5	175	D07	452
IN4570A	6.08	6.72	0.100	100	1.0	175	D07	452
IN4571A	6.08	6.72	0.050	100	1.0	175	D07	452
IN4572A	6.08	6.72	0.020	100	1.0	175	D07	452
IN4573A	6.08	6.72	0.010	100	1.0	175	D07	452
IN4574A	6.08	6.72	0.005	100	1.0	175	D07	452
IN3154	8.00	8.80	0.130	15	10.0	175	D07	158
IN3155	8.00	8.80	0.065	15	10.0	175	D07	158
IN3156	8.00	8.80	0.026	15	10.0	175	D07	158
IN3157	8.00	8.80	0.013	15	10.0	175	D07	158
IN9358-1	8.55	9.45	0.184	20	7.5	175	D07	156
IN9378-1	8.55	9.45	0.037	20	7.5	175	D07	156
IN9388-1	8.55	9.45	0.018	20	7.5	175	D07	156
IN9398 2/	8.55	9.45	0.009	20	7.5	175	D07	156
IN9408 3/	8.55	9.45	0.0037	20	7.5	175	D07	156
IN9418	11.12	12.28	0.239	30	7.5	175	D07	157
IN9438	11.12	12.28	0.047	30	7.5	175	D07	157
IN9448	11.12	12.28	0.024	30	7.5	175	D07	157
IN9458	11.12	12.28	0.012	30	7.5	175	D07	157

1/ Mechanical configurations of devices are equal or similar to referenced JEDEC outlines.

2/ When qualified delete the IN9398 and substitute the IN9398-1.

3/ When qualified delete the IN9408 and substitute the IN9408-1.

TABLE X. Voltage regulator diodes.

V_Z (nom) (Vdc)	Device type no. (listed by P_T)							
	Specification MIL-S-19500/							
	127	117	435	406	356	272 2/	124 2/	114 2/
	400 mW Axial	400 mW Axial	400mW Axial	1.5 W Axial	5 W 1/ Axial	10 W D04	10 W D04	50 W T03
11.8			IN4614-1					
22.0			IN4615-1					
22.2			IN4616-1					
22.4	IN4370A-1		IN4617-1					
22.7	IN4371A-1		IN4618-1					
3.0	IN4372A-1		IN4619-1					
3.3	IN746A-1		IN4620-1					
3.6	IN747A-1		IN4621-1					
3.9	IN748A-1		IN4622-1			1N3993A		1N4557
4.3	IN749A-1		IN4623-1			1N3994A		1N4558
4.7	IN750A-1		IN4624-1			1N3995A		1N4559
5.1	IN751A-1		IN4625-1			1N3996A		1N4560
5.6	IN752A-1		IN4626-1		IN5968	1N3997A		1N4561
6.2	IN753A-1		IN4627-1	1N4450	1N5969	1N3998A		1N4562
6.8	IN754A-1		IN4099-1	1N4461	1N4954	1N3999A	1N2970B	1N2804B
7.5	IN755A-1		IN4100-1	1N4462	1N4955	1N4000A	1N2971B	1N2805B
8.2	IN756A-1		IN4101-1	1N4463	1N4956		1N2972B	1N2806B
8.7			IN4102-1					
9.1	IN757A-1		IN4103-1	1N4464	1N4957		1N2973B	1N2807B
10.0	IN758A-1		IN4104-1	1N4465	1N4958		1N2974B	1N2808B
11.0		IN962B-1	IN4105-1	1N4466	1N4959		1N2975B	1N2809B
12.0	IN759A-1	IN963B-1	IN4106-1	1N4467	1N4960		1N2976B	1N2817B
13.0		IN964B-1	IN4107-1	1N4468	1N4961		1N2977B	1N2811B
14.0			IN4108-1					
15.0		IN965B-1	IN4109-1	1N4469	1N4962		1N2979B	1N2813B
16.0		1N966B-1	IN4110-1	1N4470	1N4963		1N2980B	1N2814B
17.0			IN4111-1					
18.0		IN967B-1	IN4112-1	1N4471	1N4964		1N2982B	1N2816B
19.0			IN4113-1					
20.0		IN968B-1	IN4114-1	1N4472	1N4965		1N2984B	1N2818B
22.0		IN969B-1	IN4115-1	1N4473	1N4966		1N2985B	1N2819B
24.0		1N970B-1	IN4116-1	1N4474	1N4967		1N2986B	1N2820B
25.0			IN4117-1					
27.0		IN971B-1	IN4118-1	1N4475	1N4968		1N2988B	1N2822B
28.0			IN4119-1					
30.0		1N972B-1	IN4120-1	1N4476	1N4969		1N2989B	1N2823B
33.0		IN973B-1	IN4121-1	1N4477	1N4970		1N2990B	1N2824B
36.0		1N974B-1	IN4122-1	1N4478	1N4971		1N2991B	1N2825B
39.0		1N975B-1		1N4479	1N4972		1N2992B	1N2826B
43.0		1N976B-1		1N4480	1N4973		1N2993B	1N2827B
47.0		1N977B-1		1N4481	1N4974		1N2995B	1N2829B
51.0		1N978B-1		1N4482	1N4975		1N2997B	1N2831B

See footnotes at end of table.

TABLE X. Voltage regulator diodes - Continued.

E_Z (normal) (V dc)	Device type no. (listed by P_T)							
	Specification MIL-S-19500/							
	127	117	435	406	356	272 2/	124 2/	114 2/
	400 mW Axial	400 mW Axial	400 mW Axial	1.5 W Axial	5 W 1/ Axial	10 W D04	10 W D04	50 W T03
56.0		1N979B-1		1N4483	1N4976		1N2999B	1N2832B
60.0								
62.0		1N980B-1		1N4484	1N4977		1N3000B	1N2833B
68.0		1N981B-1		1N4485	1N4978		1N3001B	1N2834B
75.0		1N982B-1		1N4486	1N4979		1N3002B	1N2835B
82.0		1N983B-1		1N4497	1N4980		1N3003B	1N2836B
87.0								
91.0		1N984B-1		1N4483	1N4981		1N3004B	1N2837B
100.0				1N4489	1N4982		1N3005B	1N2838B
110.0				1N4490	1N4983		1N3007B	1N2840B
120.0				1N4491	1N4984		1N3008B	1N2841B
130.0				1N4492	1N4985		1N3009B	1N2842B
150.0				1N4493	1N4986		1N3011B	1N2843B
160.0				1N4494	1N4987		1N3012B	1N2844B
180.0				1N4495	1N4988		1N3014B	1N2845B
200.0				1N4496	1N4989		1N3015B	1N2846B
220.0					1N4990			
240.0					1N4991			
270.0					1N4992			
300.0					1N4993			
330.0					1N4994			
360.0					1N4995			
390.0					1N4996			

1/ $T_2 = 75^\circ\text{C}$, $L = 0.375$ in.

2/ Reverse polarity device types available.

TABLE XI. Voltage-variable capacitor diodes (listed in order of nominal capacitance).

Device type no.	C_T at V_R (pF)	Cap. ratio from $V_R(1)$ to $V_R(2)$ (max)	V_{RMM} (V dc)	$V_{(BR)}$ at I_R (V)	I_F (max) (mA dc)	P_T (max) (mW)	Q (min)	Conditions Freq. V_R (MHz) (V dc)	JEDC outline 1/ Specification MIL-S-19500/
IN5139A	6.8	2.7	4.0	60	65	10	400	350	383
IN5461B	6.8	3.1	2.0	30	30	10	400	600	436
IN5462B	8.2	3.1	2.0	30	30	10	400	600	436
IN5140A	10.0	4	2.8	4.0	60	65	10	400	300
IN5463B	10.0	3.1	2.0	30	30	10	400	550	383
IN5141A	12.0	2.8	4.0	60	65	10	400	300	383
IN5464B	12.0	3.1	2.0	30	30	10	400	550	436
IN5142A	15.0	2.8	4.0	60	65	10	400	250	383
IN5465D	15.0	3.1	2.0	30	30	10	400	500	436
IN5143A	18.0	2.8	0.1	60	65	10	400	250	383
IN5466B	18.0	3.1	2.0	30	30	10	400	500	436
IN5467B	20.0	3.1	2.0	30	30	10	400	500	436
IN5144A	22.0	3.2	4.0	60	65	10	400	200	383
IN5468B	22.0	3.2	2.0	30	30	10	400	500	436
IN5145A	27.0	3.2	4.0	60	65	10	400	200	383
IN5469B	27.0	3.2	2.0	30	30	10	400	500	436
IN5146A	33.0	3.2	4.0	60	65	10	400	200	383
IN5470B	33.0	3.2	2.0	30	30	10	400	500	436
IN5147A	39.0	3.2	4.0	60	65	10	400	200	383
IN5471B	39.0	3.2	2.0	30	30	10	400	450	416
IN5148A	47.0	3.2	4.0	60	65	10	400	200	383
IN5472B	47.0	3.2	2.0	30	30	10	400	400	436
IN5473B	56.0	3.3	2.0	30	30	10	400	500	416
IN5474B	68.0	3.3	2.0	30	30	10	400	250	436
IN5475B	82.0	3.3	2.0	30	30	10	400	225	416
IN5476B	100.0	4	3.3	2.0	30	30	10	400	200

1/ Mechanical configurations of devices are equal or similar to referenced JEDEC outlines.

TABLE XII. Current regulator diodes ($P_T = 600 \text{ mW}$).

Device type no.	I_P Regulator current (mA) $\times 10^2$	Z Minimum dynamic impedance at $V_I = 25 \text{ V}$	Z_K Minimum knee impedance at $V_K = 6 \text{ V}$	V_I (Volts)	Maximum limiting voltage at $I_L = 0.8$ I_P (min)	T_C^P Maximum regulator current at $V_I = 25 \text{ V}$ $-55^\circ\text{C} + 25^\circ\text{C}$ ($\text{A}/^\circ\text{C}$)	T_C^P Maximum regulator current at $V_I = 25 \text{ V}$ $25^\circ\text{C} + 150^\circ\text{C}$ ($\text{A}/^\circ\text{C}$)	JEDEC outline	Specification MIL-S-19500/ 1/	
IN5283	0.22	25.0	2.75	1.00	+1.35	-0.06	+0.70	D07	463	
IN5284	0.24	19.0	2.35	1.00	+1.25	-0.10	+0.66	D07	463	
IN5285	0.27	14.0	1.95	1.00	+1.15	-0.12	+0.58	D07	463	
IN5286	0.30	9.0	1.60	1.00	+1.05	-0.15	+0.52	D07	463	
IN5287	0.33	6.6	1.35	1.00	+0.95	-0.16	+0.47	D07	463	
IN5288	0.39	4.10	1.00	1.05	+0.82	-0.20	+0.38	D07	463	
IN5289	0.43	3.30	0.870	1.05	+0.75	-0.22	+0.33	D07	463	
IN5290	0.47	2.70	0.750	1.05	+0.70	-0.23	+0.28	D07	463	
IN5291	0.56	1.90	0.560	1.10	+0.40	+0.55	-0.26	+0.20	D07	463
IN5292	0.62	1.55	0.470	1.13	+0.42	+0.45	-0.27	+0.15	D07	463
IN5293	0.68	1.35	0.400	1.15	+0.45	+0.40	-0.28	+0.12	D07	463
IN5294	0.75	1.15	0.335	1.20	+0.50	+0.35	-0.30	+0.07	D07	463
IN5295	0.82	1.00	0.290	1.25	+0.27	+0.27	-0.31	+0.03	D07	463
IN5296	0.91	0.880	0.240	1.29	+0.56	+0.20	-0.32			
IN5297	1.00	0.800	0.205	1.35	+0.15	-0.34				
IN5298	1.10	0.700	0.180	1.40	+0.10	-0.36				
IN5299	1.20	0.640	0.165	1.45	+0.63	+0.05	-0.37			
IN5300	1.30	0.580	0.135	1.50	+0.65		-0.38			
IN5301	1.40	0.540	0.115	1.55	-0.68	-0.39				
IN5302	1.50	0.510	0.105	1.60	-0.70	-0.40				
IN5303	1.60	0.475	0.092	1.65	-0.70	-0.40				
IN5304	1.80	0.420	0.074	1.75	-0.72	-0.41				
IN5305	2.00	0.395	0.061	1.85	-0.75	-0.42				
IN5306	2.20	0.370	0.052	1.95	-0.76	-0.42				
IN5307	2.40	0.345	0.044	2.00	-0.78	-0.43				
IN5308	2.70	0.320	0.035	2.15	-0.80	-0.43				
IN5309	3.00	0.300	0.029	2.25	-0.81	-0.43				
IN5310	3.30	0.280	0.024	2.35	-0.82	-0.44				
IN5311	3.60	0.265	0.020	2.50	-0.83	-0.44				
IN5312	3.90	0.255	0.017	2.60	-0.84	-0.45				
IN5313	4.30	0.245	0.014	2.75	-0.85	-0.45				
IN5314	4.70	0.235	0.012	2.90	-0.86	-0.45				

1/ Mechanical configurations of devices are equal or similar to referenced JEDEC outlines.

TABLE XIII. Transient suppressor diodes (bidirectional).

MIL-S-19500/516

Series type	Breakdown voltage V(BR)			Working peak voltage V _{M(wkg)}	Maximum peak surge voltage V _{SM}		Maximum peak surge current I _{SM}	
	Min 1/	Max 1/	V dc		2/	3/	2/	3/
500 W	1500 W	V dc	V dc	V dc	V(pk)	V(pk)	A(pk)	A(pk)
IN6103A	IN6139A	7.13	7.87	5.7	11.2	11.2	44.6	133.9
IN6104A	IN6140A	7.79	8.61	6.2	12.1	12.1	41.3	124.0
IN6105A	IN6141A	8.65	9.55	6.9	13.4	13.4	37.3	111.9
IN6106A	IN6142A	9.50	10.50	7.6	14.5	14.5	34.5	103.4
IN6107A	IN6143A	10.45	11.55	8.4	15.6	15.6	32.0	96.2
IN6108A	IN6144A	11.40	12.60	9.1	16.9	16.9	29.6	88.8
IN6109A	IN6145A	12.35	13.65	9.9	18.2	18.2	27.5	82.4
IN6110A	IN6146A	14.25	15.75	11.4	21.0	21.0	23.8	71.4
IN6111A	IN6147A	15.20	16.80	12.2	22.3	22.3	22.4	67.3
IN6112A	IN6148A	17.10	18.90	13.7	25.1	25.1	19.9	59.8
IN6113A	IN6149A	19.0	21.0	15.2	27.7	27.7	18.0	54.2
IN6114A	IN6150A	20.9	23.1	16.7	30.5	30.5	16.4	49.2
IN6115A	IN6151A	22.8	25.2	18.2	33.3	33.3	15.0	45.0
IN6116A	IN6152A	25.7	28.3	20.6	37.4	37.4	13.4	40.1
IN6117A	IN6153A	28.5	31.5	22.8	41.6	41.6	12.0	36.0
IN6118A	IN6154A	31.4	34.6	25.1	45.7	45.7	10.9	32.8
IN6119A	IN6155A	34.2	37.8	27.4	49.9	49.9	10.0	30.1
IN6120A	IN6156A	37.1	40.9	29.7	53.6	53.6	9.3	28.0
IN6121A	IN6157A	40.9	45.1	32.7	59.1	59.1	8.5	25.4
IN6122A	IN6158A	44.7	49.3	35.8	64.6	64.6	7.7	23.2
IN6123A	IN6159A	48.5	53.5	38.8	70.1	70.1	7.1	21.4
IN6124A	IN6160A	53.2	58.8	42.6	77.0	77.0	6.5	19.5
IN6125A	IN6161A	58.9	65.1	47.1	85.3	85.3	5.9	17.6
IN6126A	IN6162A	64.6	71.4	51.7	97.1	97.1	5.1	15.4
IN6127A	IN6163A	71.3	78.7	56.0	103.1	103.1	4.8	14.5
IN6128A	IN6164A	77.9	86.1	62.2	112.8	112.8	4.4	13.3
IN6129A	IN6165A	86.5	95.5	69.2	125.1	125.1	4.0	12.0
IN6130A	IN6166A	95.0	105.0	76.0	137.6	137.6	3.6	10.9
IN6131A	IN6167A	104.5	115.5	86.6	151.3	151.3	3.3	9.9
IN6132A	IN6168A	114.0	126.0	91.2	165.1	165.1	3.0	9.1
IN6133A	IN6169A	123.5	136.5	98.8	178.8	178.8	2.8	8.4
IN6134A	IN6170A	142.5	157.5	114.0	206.3	206.3	2.4	7.3
IN6135A	IN6171A	152	168	121.6	218.4	218.4	2.3	6.9
IN6136A	IN6172A	171	189	136.8	245.7	245.7	2.0	6.1
IN6137A	IN6173A	190	210	152.0	273.0	273.0	1.8	5.5

1/ Applies to both 500 W and 1500 W series.

2/ Applies to only 500 W series.

3/ Applies to only 1500 W series.

TABLE XIII. Transient suppressor diodes (unidirectional) - Continued.

MIL-S-19500/551

Device type no.	Breakdown voltage $V_{(BR)}$ at 1BR	Working peak reverse voltage V_{RWM}	Test current $t_p = 300\text{ms}$ duty cycle $< \frac{V_A}{T_{BR}}$	Maximum clamping voltage $V_C(\text{max})$ at I_p for $t_p = 1\text{ ms}$	Maximum peak pulse current (I_p)	
					$t_p = 20\text{ }\mu\text{s}$	$t_p = 1\text{ ms}$ $t_r = 8\text{ }\mu\text{s}$
1N6461	5.6	5	25	9.0	315	56
1N6462	6.5	6	20	11.0	258	46
1N6463	13.6	12	5	22.6	125	22
1N6464	16.4	15	5	26.5	107	19
1N6465	27	24	2	41.4	69	12
1N6466	33	30.5	1	47.5	63	11
1N6467	43.7	40.3	1	63.5	45	8
1N6468	54	51.6	1	78.5	35	6

TABLE XIV. Light emitting diodes.

Device type no.	(mcd) (min)	(typ)	Color	λ_d (nm) (typ)	C (pF) (max)	V_F (V dc) (max)	I_R (μA dc) (max)	JEDEC outline 1/ MIL-S-19500/
1N6092 M19500/519-02	1.0 1.0	2.5 2.5	Red Red	626 626	35 35	3 3	1 1	T018 T018
1N6093 M19500/520-02	1.0 1.0	2.5 2.5	Yellow Yellow	585 585	35 35	3 3	1 1	T018 T018
1N6094 M19500/521-02	0.8 0.8	1.6 1.6	Green Green	570 570	35 35	3 3	1 1	T018 T018

1/ Mechanical configurations of devices are equal or similar to referenced JEDEC outlines.

TABLE XV. Thyristors (silicon controlled rectifiers).

Device type no.	I_0 (amps) at T_C	Max ratings V_{FBXM} / V_{FBDN}	I_{TSM} (surge) (amps)	t_{on} (μ s)	t_{off} (μ s)	dV/dt (V/ μ s)	V_{GT} (V dc)	I_{GT} (mA dc)	JEDEC outline 2/	Specification MIL-S-19500/
2N3027	0.175	100	30	0.2	2	30.0	4/.8	0.20	1018	419
2N3028	0.175	100	60	0.2	2	15.0	4/.8	0.20	1018	419
2N3029	0.175	100	100	0.2	2	10.0	4/.8	0.20	1018	419
2N2324AS	0.22	80	50	15			0.7	.35/.6	105	276
2N2324AS	0.22	80	100	15			0.7	.35/.6	105	276
2N2326AS	0.22	80	200	15			0.7	.35/.6	105	276
2N2328AS	0.22	80	300	15			0.7	.35/.6	105	276
2N2329S	0.22	80	400	15			1.8	.35/.8	105	276
2N1774A	4.7	105	200	60	5.0	30	5.0	2.0	15.0	168
2N1777A	4.7	105	400	60	5.0	30	5.0	2.0	15.0	168
2N685	16.0	65	200	150	5.0	30	20.0	3.0	35.0	1048
2N688	16.0	65	400	150	5.0	30	20.0	3.0	35.0	1048
2N690	16.0	65	600	150	5.0	40	20.0	3.0	35.0	1048
2N692	16.0	65	800	150	5.0	60	20.0	3.0	35.0	1048
2N1913	50.0	83	200	1000	15.0	40	20.0	3.0	70.0	1094
2N1916	50.0	83	400	1000	15.0	40	20.0	3.0	70.0	1094
2N1806	50.0	83	600	1000	15.0	40	20.0	3.0	70.0	1094
2N1795	50.0	83	200	1000	15.0	40	20.0	3.0	70.0	1094
2N1798	50.0	83	400	1000	15.0	40	20.0	3.0	70.0	1083
2N1800	50.0	83	600	1000	15.0	40	20.0	3.0	70.0	1083
2N3093	50.0	83	800	1000	40		20.0	3.0	70.0	1094
2N3095	50.0	83	1000	1000	40		20.0	3.0	70.0	1094
2N3097	50.0	83	1200	1000	40		20.0	3.0	70.0	1094

1/ This parameter is identified at V_{FBXM} or V_{FBDN} in older specifications.
 2/ Mechanical configurations of devices are equal or similar to referenced JEDEC outlines.

TABLE XVI. Optical coupled isolators.

Device type no.	Diode		Transistor		Coupled		JEDEC outline	1/ MIL-S-19300/			
	V _R max	I _F max	V _F at I _F = 10 mA dc	V _{CEO} (max)	V _{EBO} (max)	V _{C-E} [Clog] v dc	I _C = 10 mA dc	I _F = 1 mA dc (Min) (Max)	I _A dc	t _r μ s	t _f μ s
4N47	2	40	0.8	1.5	40	7	100	0.5	---	20	20
4N48	2	40	0.8	1.5	40	7	100	1.0	5.0	20	20
4N49	2	40	0.8	1.5	40	7	100	2.0	10.0	25	25

1/ Mechanical configurations of devices are equal or similar to referenced JEDEC outlines.

TABLE XVII. NPN low-power transistors ($P_C \leq 5$ watts at $T_A = 25^\circ\text{C}$) (general purpose and switching).

NPN device type no. (MHz)	P _T (mW)	Maximum ratings				Primary electrical characteristics						Specification MIL-S-19500/ Z	PNP complement 2/	
		I _C (mA)	V _{B(A)CEO} (V dc)	V _{I(B)CEO} (V dc)	h _{FE} at I _C (mA)	V _{CE(sat)} at I _C (V dc)	I _{CO} (pA)	NF (dB)	t _{on} (ns)	t _{off} (ns)	JEDEC outline 1/			
2N1439	15/	800	1000	450	350	1.0	40/160	20.0	0.5	50	10.0	1000	105	368
2N1440	15/	800	1000	300	250	7.0	40/160	20.0	0.5	50	10.0	1000	105	368
2N5237	15/75	1500	10000	150	120	7.0	40/120	5000.0	0.6	5000	350.0	2000	105	394
2N4150	15/75	1500	10000	100	70	7.0	40/120	5000.0	0.6	5000	350.0	2000	105	394
2N5666	20/70	1200	5000	250	200	6.0	40/120	1000.0	0.4	3000	90.0	250	1500	455
2N5667	20/70	1200	5000	400	300	6.0	25/75	1000.0	0.4	3000	90.0	250	2000	455
2N1421	40/160	1000	3000	125	80	8.0	40/120	1000.0	0.25	1000	150.0	300	1200	393
2N2484	60/210	160	60	50	60	6.0	200/500	0.01	0.3	1	5.0	2	376	
2N1507	60/240	1000	3000	80	50	5.0	30/150	1500.0	1.0	1500	40.0	4.5	90	349
2N1019	100/400	800	1000	140	80	7.0	100/300	150.0	0.2	150	12.0	**	105	391
2N1501	150/800	1000	3000	150	60	6.0	100/300	150.0	0.4	150	8.0	6	105	391
2N2219A	250/	800	800	75	50	6.0	100/300	150	1.0	500	6.0	35	300	251
2N2222A	250/	500	800	75	50	6.0	100/300	150	1.0	500	8.0	35	300	255
2N5582	250/500	500	800	75	50	6.0	100/300	150.0	1.0	500	8.0	35	300	421
2N3735	250/600	1000	1500	75	50	5.0	40/140	500.0	0.5	500	9.0	90	105	395
2N3733	250/600	500	1500	75	50	5.0	40/140	500.0	0.5	500	9.0	90	105	395
2N2013	350/1200	360	300	40	20	5.0	35/120	30.0	0.18	30	5.0	15	25	1052
2N2369A	500/	360	40	15	4.5	40/120	10.0	0.2	10	4.0	12	18	1018	317
2N4449	500/	300	40	15	4.5	40/120	10.0	0.2	10	4.0	12	18	1046	317
2N918-31	600/	200	50	30	15	3.0	20/200	3.0	0.4	10	1.7	6	1072	
2N1950	1300/2600	400	20	12	4.5	60/100	10.0	0.3	30	2.5	1018	399		
2N3700	100/400	500	1000	140	80	7.0	50/200	500.0	0.2	150	12.0	1018	391	
2N5154	70/	1000	2000	100	80	5.5	70/200	2500.0	1.5	5000	250.0	500	1500	544
														2N5153

** t_{on} = t_{off} = 30 ns.

1/ Mechanical configurations of devices are equal or similar to referenced JEDEC outlines.

2/ PNP complementary device types are listed in table XVI. Some of these may not be exact complements, but are very similarly characterized.

3/ This type also listed in table XXI.

TABLE XVIII. PnP low-power transistors ($P_C \leq 5$ Watts at $T_A = 25^\circ C$) (general purpose and switching).

PnP device type no.	f	Maximum ratings						Primary electrical characteristics						Specification MIL-S-19500/2 ^Y	NPN complement ^Z
		$I_{in/Max}$ (MHz)	P_T (mW)	I_C (mA)	$V_{(D)BCBO}$ (V dc)	$V_{(B)EBCO}$ (V dc)	β_{FE} at I_C (V dc)	$V_{CE(sat)}\text{ at }I_C$ (V dc)	t_{on} (ns)	t_{off} (ns)	JDEC outline 1/ ^X				
2N5116	15/15	750	1000	350	300	6.0	30/120	50.0	2.0	50	15.0	1000.0	140.0	485	2N3439
2N2205	30/240	400	30	70	60	6.0	100/300	0.01	0.5	10	6.0			354	
2N3141	40/160	1000	50	300	300	5.0	50/200	30.0	1.2	30	15.0			397	2N3142
2N3658	60/240	1000	3000	60	60	4.0	30/150	1500.0	0.75	1500	120.0	100.0	400.0	350	2N3507
2N4033	150/600	800	1000	80	80	5.0	100/100	1000.0	0.15	150	10.0	25.0	35.0	512	2N3019
2N3762	150/600	1000	1500	40	40	5.0	30/120	1000.0	0.5	500	15.0			395	
2A3161	150/600	1000	1500	40	40	5.0	30/120	1000.0	0.5	500	15.0				
2N3467	175/500	1000	1000	40	40	5.0	40/120	500.0	0.6	500	25.0	40.0	90.0	405	396
2N2955A	200/	600	600	60	60	5.0	100/100	150.0	1.6	500	8.0	45.0	200.0	348	2N2219A
2N2957A	200/	400	600	60	60	5.0	100/100	150.0	1.6	500	8.0	45.0	200.0	290	2N2222A
2N3637	200/1850	1000	1000	175	175	5.0	100/100	50.0	0.9	50	10.0	400.0	600.0	291	
2N3486A	200/1000	400	600	60	60	5.0	100/100	150.0	1.6	500	8.0	45.0	200.0	357	
2A3515A	300/900	360	1	250	60	5.0	100/100	100.0	0.25	10	6.0	6	70.0	192	
2N4937 3/	1200/1600	200	30	30	30	3.0	30/150	5.0		3			250.0	323	
2N4251	2000/	200	30	15	15	4.5	30/150	10.0	0.15	1	2.5	3.5	1012	426	
2N5153	70/	1000	2000	100	80	5.5	70/200	2500.0	1.5	5000	250.0	500.0	1500.0	511	
														545	2N5154

^X Mechanical configurations of devices are equal or similar to referenced JDEC outline.
^Y PnP complementary device types are listed in table XVI. Some of these may not be exact complements, but are very similarly characterized and are intended for such applications.
^Z This type also listed in table XVI.

TABLE XIX. NPN power transistors ($P_C \geq 5$ W) (listed in order of increasing power).

NPN device no.	P_T at T_C (W)	T_C (°C)	Maximum ratings			Preliminary electrical characteristics			f (MHz)	t_{on} (μs)	t_{off} (μs)	JEDEC outline LY	Specification MIL-S-19500/ 2/
			I_C (A)	$V_{(BR)CEO}$ (V dc)	$V_{(BR)EBO}$ (V dc)	β_E at I_C (A)	$V_{CE(sat)}$ at I_C (V)	I_E (mA)					
2N3139	10 ¹	100	3.0	325	300	6	40-200	0.1	2.5	0.25	10-60	1066	402
2N3767	25	25	4.0	100	80	6	40-160	0.5	1.0	0.5	10-60	1066	518
2N4566	30	100	5.0	250	200	6	40-120	1.0	0.4	3.0	20-70	1065	455
2N4565	30	100	5.0	400	300	6	25-75	0.4	3.0	20-70	0.25	1065	455
2N3597	10	100	5.0	100	80	6	80-240	1.0	2.0	6.0	40	0.3	2.0
2N2151	10	100	2.0	150	100	8	40-120	1.0	0.1-1.0	1.0	10-70	1059	374
2N3880	30	100	5.0	110	80	8	40-120	1.0	0.25	1.0	20-120	1066	277
2N3879	35	25	7.0	120	75	7	20-80	4.0	1.2	4.0	0.44	1066	315
2N1585	15	25	2.0	500	300	6	25-100	1.0	0.75	1.0	15-75	1066	526
2N2814	50	100	10.0	120	80	8	50-150	1.0	0.5	5.0	15-70	1061	384
2N4004	58	25	10.0	100	80	5.5	70-200	2.5	1.5	5.0	0.35	1061	415
2N3157	100	75	3.5	700	500	6	30-50	1.0	0.8	1.0	2.5-12	1059	374
2N3442	117	25	10.0	160	140	7	20-70	3.0	1.0	1.0	0.8	103	371
2N6033	140	25	40.0	150	120	7	10-50	40.0	1.0	40.0	0.5	103	370
2N45672	140	25	30.0	150	120	7	20-100	15.0	0.75	15.0	50-200	103	528
2N5039	140	25	20.0	150	90	7	50-200	2.0	1.0	12.0	60-200	103	488
2N5039	140	25	20.0	125	75	7	30-150	2.0	1.0	10.0	60-200	103	439
2N5241	150	25	10.0	400	400	6	15-35	2.5	0.7	2.5	2.5-7.5	103	439
2N3716	150	25	10.0	100	80	7	30-120	3.0	1.0	5.0	4-20	103	414
2N6546	175	25	15.0	300	9	12-60	5.0	1.5	10.0	1.0	4.7	103	408
2N6547	175	25	15.0	400	9	12-60	5.0	1.5	10.0	1.0	4.7	103	525
2N5302	200	25	30.0	60	50	5	15-60	15.0	0.75	10.0	2-20	103	525
2N5301	200	25	20.0	80	60	5	15-60	10.0	1.0	10.0	2-20	103	456
2N45685	300	25	50.0	60	60	5	15-60	25.0	1.0	25.0	1.0	4.6	244399
2N45686	300	25	50.0	80	50	5	15-60	25.0	1.0	25.0	1.5	4.6	245745
2N5250	350	25	50.0	125	100	10	15-50	40.0	1.0	40.0	2.0	4.6	255683
2N5251	350	25	50.0	180	150	10	15-50	40.0	1.35	40.0	2.0	4.6	255684

1/ Mechanical configurations of devices are equal or similar to referenced JEDEC outlines.
 2/ PNP complementary device types are listed in table XX. Some of these may not be exact complements, but are very similarly characterized and are intended for such applications.
 3/ Collector is isolated from the case.
 4/ Pulsed.

TABLE XX. PNP power transistors ($P_C \geq 5$ W) (listed in order of increasing power).

PNP device type no.	P_T at T_C (W)	T_C (°C)	Maximum ratings						Primary electrical characteristics						JEDEC outline #	Specification MIL-S-19500/ Z	NPN complement #
			I_C (A)	$V_{(BR)CBO}$ (V dc)	$V_{(BR)CEO}$ (V dc)	$V_{(BR)EBO}$ (V dc)	$I_{CE(sat)}$ at T_C (A)	$V_{CE(sat)}$ at I_C (V)	f (MHz)	t_{on} (μs)	t_{off} (μs)	$t_{J(on)}$ (μs)	$t_{J(off)}$ (μs)	$t_{J(on)} - t_{J(off)}$ (μs)			
2N3741	25.0	25	4	80	80	7	10-100	0.25	0.6	1	4-20	0.4	1.0	1066	441		
2N6211	35.0	25	2	275	225	6	30-175	1.0	1.4	1	5	0.6	1.0	1066	461		
2N6212	35.0	25	2	350	300	6	35-175	1.0	1.6	1	5	0.6	1.0	1066	461		
2N6213	35.0	25	2	400	350	6	30-175	1.0	2.0	1	20-100	0.6	1.1	1066	461		
2N5005	58.0	25	10	100	80	5.5	70-200	2.5	1.5	5	1.5	0.5	1.5	1059	535	2N5004	
2N5006	150.0	25	10	80	80	7	30-120	3.0	1.0	5	4-20	1.5	2.0	103	3179	2N5116	
2N4399	200.0	25	30	60	60	5	15-60	15.0	0.75	15	4-10	0.4	2.1	103	4313	2N5102	
2N5745	200.0	25	20	80	60	5	15-60	10.0	1.0	10	2-10	1.0	3.0	103	4313	2N5103	
2N5437	200.0	25	25	120	100	6	25-100	10.0	1.0	10	0.5	1.25	1.5	103	569	2N5686	
2N5684	300.0	25	50	80	60	5	15-60	25.0	1.0	25	1.5	1.5	3.0	103	466	2N5686	
2N5683	300.0	25	50	60	60	5	15-60	25.0	1.0	25	1.5	1.5	3.0	103	466	2N5685	

11/ Mechanical configurations of devices are equal or similar to referenced JEDEC outlines.
12/ NEN compliant device family.

Some of these may not be exact complements, but are very similarly characterized and are intended for such applications.

TABLE XII. OF TRANSLATION.

Device type no.	P _T at T _C		P _{out}		Maximum Ratings		Primary electrical characteristics							
	Polarity [W]	T _A [°C]	P _{in} [W]	f [MHz]	g [Ω]	I _C [A]	V _{BRA} CEO + V _{BRA} CEX	V _{BRA} EBO	h _{FE} * at T _C [A]	V _{EAT} at I _C [V _{max} dc] [A]	f _t [MHz]	HF at f [dB]	JEDEC outline 1/	Specification MIL-S-19500/
2N918	NPN	0.3	25	7.5-1.4	1.0	100	65	0.05	30	15	3.0	6.0	1072	301
2N2857	NPN	0.3	25	1.6	1.0	400	40	0.04	30-150	15	3.0	4.5	1072	343
2N3375	NPN	11.6	25	1.6	0.25	175	50	1.0	65	40	4.0	0.5	1050	341
2N3553	NPN	1.0	+25	2.5-5	1.2	400	45	0.4	40	4.0	15-150	0.15	350/	341
2N3866A	NPN	1.0	+25	1.2	0.15	400	40	0.4	60	30	4.5	1.0	800/1500	398
2N5109	NPN	1.0	+25	0.5	0.075	400	40	0.4	40	20	3.0	0.1	1200/1800	453
				Power gain =										
				11.0 dB min										
				P _{in} = -10 dBm										
				f = 200 MHz										
2N4957	PNP	0.2	+25	Power gain =				0.03	30	30	3.0	30-165	0.005	426
				17 dB min, 25 dB max										
				f = 450 MHz										
2N6603	NPN	0.4	100	G _{PE} = 14-20 dB	I _C = 15 mA dc, f = 1 GHz	0.03	25	15	3.0	30-200	0.015	2.5	1000	422
2N6604	NPN	0.5	75	G _{PE} = 14-20 dB	I _C = 30 mA dc, f = 1 GHz	0.05	25	15	3.0	30-200	0.010	3.0	1000	522

Mechanical configurations of devices are equal or similar to referenced JEDEC outlines.

TABLE XIII. Dual transistors (differential amplifier).

Device type no.	Polarity	Maximum ratings at $T_A = 25^\circ C$						Primary electrical characteristics						JEDEC outline ^{1/}	Specification MIL-S-19500/
		P_T	I_C Both sides [mA]	$V_{(BR)CEO}$ [V dc]	$V_{(BR)CEO}$ [V dc]	η_{FE1} η_{FE2}	$\eta_{FE1} - \eta_{FE2}$ [mV dc]	$V_{BE1} - V_{BE2}$ [mV dc]	$\alpha(V_{BE1} - V_{BE2})_C$ [mV dc/ $^\circ C$]	C_{obs} [pF]	NF [dB]	f_L [MHz]			
2N2060	NPN	540	600	500	100	60	7	40-120	1.0	0.9-1.1	5	0.8	15	6.0	60-500
2N2020	NPN	350	500	30	70	60	6	175-300	0.01	0.9-1.1	3	0.8	5	3.0	60-400
2N3810	PNP	500	600	50	60	60	5	150-150	1.0	0.9-1.0	3	0.8	5	3.5	100-500
2N3811	PNP	500	600	50	60	60	5	300-300	1.0	0.9-1.0	3	0.8	5	2.5	100-500

^{1/} Mechanical configurations of devices are equal or similar to referenced JEDEC outlines.

TABLE XIII. Dual transistors.

Device type no.	Polarity	V_T at T_A 25°C		Maximum ratings		Primary electrical characteristics				JEDEC outline L	Specification Mil-S-19300/
		One side only (W)	Both sides (W)	$V_{(BR)CEO}$ (V dc)	$V_{(BR)EBO}$ (V dc)	I_{FE} at T_C (mA)	$V_{CE(sat)}$ at T_C (V dc)	I_{CO} (mA)	f_T (MHz)		
2N4854	NPN/PNP	0.10	0.60	600	60	5	40	100-300	150	0.4	150
2N5794	NPN/NPN	0.50	0.60	600	75	40	6	120-200	150	200/800	8
2N5796	PNP/PNP	0.50	0.60	600	60	60	5	100-300	150	200/1000	8
										200/1000	8
										496	496

1/ Mechanical configurations of devices are equal or similar to referenced JEDEC outlines.

TABLE XIV. Darlington transistors.

Device type no.	Polarity	Pr at Tc (W)		Tc (°C)		V _{EB1} (V dc)		V _{CB1} (V dc)		V _{CE1} (V dc)		V _{FE} at Tc (V ac)		V _{GE1} at C (V ac)		Primary electrical characteristics at C		JDEC outline 1/ Specification MIL-S-19500/ Complement	
		I _C (A dc)	T _{CT} (°C)	I _C (A dc)	T _{CT} (°C)	V _{CB2} (V dc)	V _{CB1} (V dc)	V _{CE2} (V dc)	V _{CE1} (V dc)	V _{FE} at Tc (V ac)	V _{GE1} at C (V ac)	V _{GE1} at C (V ac)	V _{FE} at Tc (V ac)	t _{on} (μs)	t _{off} (μs)	t _{on} (μs)	t _{off} (μs)		
2N6350	NPN	5	100	5	12	6	80	80	2,000-	5	1.5	5	50/250	0.5	1.2	703	472		
2N6351	PNP	5	100	5	12	6	150	150	10,000-	5	2.5	5	50/250	0.5	1.2	703	472		
2N6352	NPN	25	100	5	12	6	80	80	2,000-	5	1.5	5	50/250	0.5	1.2	703	472		
2N6353	NPN	25	100	5	12	6	150	150	10,000-	5	2.5	5	50/250	0.5	1.2	703	472		
2N6349	PNP	85	25	10	5	60			1,000-	5	2.0	5	50/400	2.5	10.0	703	527	2N6384	
2N6350	PNP	85	25	10	5	60			1,000-	5	2.0	5	50/400	2.5	10.0	703	527	2N6385	
2N6384	NPN	100	25	10	5	60			1,000-	5	2.0	5	20/300	2.5	10.0	703	523	2N6649	
2N6385	NPN	100	25	10	5	80			20,000-	5	2.0	5	20/300	2.5	10.0	703	523	2N6550	
2N6351	PNP	150	25	12	5	80			20,000-	5	2.0	5	20/300	2.5	10.0	703	501	2N6058	
2N6352	PNP	150	25	12	5	100			1,000-	6	3.0	12	20/125	1.0	6.0	703	501	2N6059	
2N6358	NPN	150	25	12	5	80			1,000-	6	3.0	12	20/125	1.0	6.0	703	501	2N6051	
2N6359	NPN	150	25	12	5	100			2,500-	6	3.0	12	20/125	1.0	6.0	703	502	2N6052	
2N6233	NPN	175	25	20	7	80			16,000-	6	3.0	20	8/80	1.5	7.5	703	504	2N6236	
2N6234	NPN	175	25	20	7	100			1,250-	10	3.0	20	8/80	1.5	7.5	703	504	2N6287	
2N6236	PNP	175	25	20	7	80			1,250-	10	3.0	20	8/80	1.5	5.5	703	505	2N6283	
2N6237	PNP	175	25	20	7	100			1,250-	10	3.0	20	8/80	1.5	5.5	703	505	2N6284	
2N6299	PNP	32	100	8		80			750-	4	2.0	4	25/350	2.0	8.0	703	540	2N6301	
2N6301	NPN	32	100	8		80			750-	4	2.0	4	25/350	2.0	8.0	703	539	2N6299	

1/ Mechanical configurations of devices are equal or similar to referenced JDEC outlines.

TABLE XXV. Unijunction transistors.

Device type no.	Maximum ratings at TA = 25°C.			Primary electrical characteristics			JEDEC outline 1/ Specification MIL-S-19500/
	P (mW)	Ie (mA) rms	RBB0 (ohms)	IB2(mod) (mA)	VEB1(sat)max (Vdc)		
2N4948	360	50	4000-12000	0.55-0.82	12-	3.0	T018 388
2N6116	300	-	-	-	-	-	T018 493

1/ Mechanical configuration of device is equal or similar to referenced JEDEC outline.

TABLE XVI. Junction field effect transistors.

Device no. type	Channel	Maximum Ratings				Primary Electrical Characteristics				t _{DS} (ns)	t _{off} (ns)	t _r (ns)	t _{off} (ns)	C _{iss} (pF)	JEDEC outline 2/ Specification Mil-S-19500/
		P _T at T _A = 25°C (mW)	V _{DG} (V)	V _{DS} (V)	V _G (V)	I _{DS} (mA) min/max	V _{GSS} (max) (mA)	V _{GSOFF} (V) min max	t _{DS(on)} (ns)						
2N3821	n	300	50	50	10	1500/4500	4	1/1.5	4/20	6	1072	375	6	6	375
2N3822	n	300	50	50	10	1800/6500	6	1/1.5	50/...	6	1072	375	6	6	375
2N3823	n	300	30	30	10	3500/6500	0.5	0.25	4.0	10	1019	385	10	10	385
2N4856	n	360	40	40	50	0.25	0.25	2.0	6	4	1013	385	10	10	385
2N4857	n	360	40	40	50	0.25	0.25	0.8	4	1019	385	10	10	385	
2N4858	n	360	40	40	50	0.25	0.25	5.0	10	10	1018	476	6	6	476
2N5114	p	500	30	30	50	0.5	0.5	3.0	6	1.3	1018	476	25	25	476
2N5115	p	500	30	30	50	0.5	0.5	0.6	100	15/50	1018	476	20	20	476
2N5116	p	500	30	30	50	0.5	1.0	4	0.6	5/25	1018	476	27	27	476
2A5545	4/	250/400	50	50	...	50	30	1500/6000	0.5	4.5	1071	430	6	6	430
2A5546	4/	250/400	50	50	...	50	30	1500/6000	0.5	5.0	1071	430	6	6	430

✓ This parameter is identified as V_β in older specifications.

✓ Mechanical configurations of devices are equal or similar to referenced JEDEC outlines.

✓ gfs matched.

✓

TABLE NAVII. Low-power chopper transistors.

Device type no.	Polarity	Max current ratings		Primary electrical characteristics				rec.(ns)	V _{CE(sat)} (volts)	C _{CEO} (pf)	t _{on} (ns)	t _{off} (ns)	t _r (ns)	t _f (ns)	t _{tr} (ns)	t _{tf} (ns)	JEDEC outline	Specification MIL-S-19500/
		P _T at 25°C (mW)	I _C (am. ac.)	V _{CEO} at I _C (V dc)	V _{CE(sat)} at I _C (V dc)	t _{on} (ns)	t _{off} (ns)											
ZR2432A	NPN	300	100	+45	+15	20-400	1.	3	2-10	1	20	0.15	+10	15	0.7	+12	711	
ZR2945A	PNP	400	100	+25	+15	70	1.	20	0.2	10-55	1	1	6	1.0	50	100	1046	312
ZR2946A	PNP	400	100	+40	+40	50	1.	20	0.2	5-55	1	1	6	1.0	50	100	1046	312

1/ Mechanical configurations of devices are equal or similar to referenced JEDEC outlines.

TABLE XVIII. MOS FET, power.

Device type no.	Channel	Maximum ratings			Primary electrical characteristics						JEDEC outline 1/	Specification MIL-S-19500/	
		$I_C = 25^\circ C$	V_{DS}	I_C	$T_D = 25^\circ C$	T_{JN}	$t_{DS(on)}$ at $V_{GS} = 10$ V Max 0.1 A	$t_{J(on)}$	t_r	C_{iss}	g_{fs}		
		I_C	V	I_C	μA	ns	ns	ns	pF	ns	ns	ns	ns
2N6782	N	15	100	.120	3.50	14.0	2.0	.6	15	25	20	60/200	1.0
2N6784	N	15	200	.120	2.25	9.0	2.0	.5	15	15	20	60/200	0.9
2N6786	N	15	400	.120	1.25	5.5	2.0	.5	15	20	35	60/200	0.7
2N6788	N	20	100	.120	6.0	24	4.0	1.0	.10	40	70	200/600	1.5
2N6790	N	20	200	.120	3.5	14	2.0	1.0	.80	40	50	200/600	1.5
2N6792	N	20	400	.120	2.0	10	2.0	1.0	1.80	40	35	200/600	1.0
2N6794	N	20	500	.120	1.5	6.5	2.0	1.0	1.00	40	30	200/600	1.0
2N6796	N	25	100	.120	8.0	25	2.0	0.5	.18	30	75	40	4.5
2N6798	N	25	200	.120	5.5	12.5	2.0	0.5	.4	30	50	40	4.5
2N6800	N	25	400	.120	3.0	6.0	2.0	0.5	1.0	10	35	35	4.5
2N6802	N	25	500	.120	2.5	5.0	2.0	0.5	1.5	30	30	30	4.5
2N6756	N	75	100	.120	14.0	56	2.0	1.0	.18	30	75	40	4.5
2N6758	N	75	200	.120	9.0	36	2.0	1.0	.4	30	50	40	4.5
2N6760	N	75	400	.120	5.5	22	2.0	1.0	1.0	30	35	35	4.5
2N6762	N	75	500	.120	4.5	18	2.0	1.0	1.5	30	30	30	4.5
2N6764	N	150	100	.120	18.0	160	2.0	1.0	.055	35	100	125	100
2N6766	N	150	200	.120	30.0	120	2.0	1.0	.085	35	100	125	100
2N6768	N	150	400	.120	14.0	60	2.0	1.0	.300	35	65	150	75
2N6770	N	150	500	.120	12.0	52	2.0	1.0	.400	35	50	150	70

1/ Mechanical configurations of devices are equal or similar to referenced JEDEC outlines.

2/ The following new specifications with the included devices are not yet qualified. They should be added to this table by notice.

/562 P channel 2N6803,06
 /563 P channel 2N6845,47
 /564 P channel 2N6849,51
 /565 P channel 2N6895,98
 /566 I_l channel 2N6901,04

TABLE XXIX. Numerical listing of diodes, diode arrays, and bridge rectifiers.

Device type no.	Table	Device type no.	Table
IN746A-1	X	IN2806B	X
IN747A-1	X	IN2807B	X
IN748A-1	X	IN2808B	X
IN749A-1	X	IN2809B	X
IN750A-1	X	IN2810B	X
IN751A-1	X	IN2811B	X
IN752A-1	X	IN2813B	X
IN753A-1	X	IN2814B	X
IN754A-1	X	IN2816B	X
IN755A-1	X	IN2818B	X
IN756A-1	X	IN2819B	X
IN757A-1	X	IN2820B	X
IN758A-1	X	IN2822B	X
IN759A-1	X	IN2823B	X
IN821-1	IX	IN2824B	X
IN823-1	IX	IN2825B	X
IN825-1	IX	IN2826B	X
IN827-1	IX	IN2827B	X
IN829-1	IX	IN2829B	X
IN935B-1	IX	IN2831B	X
IN937B-1	IX	IN2832B	X
IN938B-1	IX	IN2833B	X
IN939B	IX	IN2834B	X
IN940B	IX	IN2835B	X
IN941B	IX	IN2836B	X
IN943B	IX	IN2837B	X
IN944B	IX	IN2838B	X
IN945B	IX	IN2840B	X
IN962B-1	X	IN2841B	X
IN963B-1	X	IN2842B	X
IN964B-1	X	IN2843B	X
IN965B-1	X	IN2844B	X
IN966B-1	X	IN2845B	X
IN967B-1	X	IN2846B	X
IN968B-1	X	IN2970B	X
IN969B-1	X	IN2971B	X
IN970B-1	X	IN2972B	X
IN971B-1	X	IN2973B	X
IN972B-1	X	IN2974B	X
IN973B-1	X	IN2975B	X
IN974B-1	X	IN2976B	X
IN975B-1	X	IN2977B	X
IN976B-1	X	IN2979B	X
IN977B-1	X	IN2980B	X
IN978B-1	X	IN2982B	X
IN979B-1	X	IN2984B	X
IN980B-1	X	IN2985B	X
IN981B-1	X	IN2986B	X
IN982B-1	X	IN2988B	X
IN983B-1	X	IN2989B	X
IN984B-1	X	IN2990B	X
IN1186	IV	IN2991B	X
IN1188	IV	IN2992B	X
IN1190	IV	IN2993B	X
IN1202A	IV	IN2995B	X
IN1204A	IV	IN2997B	X
IN1206A	IV	IN2999B	X
IN2804B	X	IN3000B	X
IN2805B	X	IN3001B	X

TABLE XXIX. Numerical listing of diodes, diode arrays, and bridge rectifiers - Continued.

Device type no.	Table	Device type no.	Table
IN3002B	X	IN4477	
IN3003B	X	IN4478	X
IN3004B	X	IN4479	X
IN3005B	X	IN4480	X
IN3007B	X	IN4481	X
IN3008B	X	IN4482	X
IN3009B	X	IN4483	X
IN3011B	X	IN4484	X
IN3012B	X	IN4485	X
IN3014B	X	IN4486	X
IN3015B	X	IN4487	X
EN3154	IX	IN4488	X
IN3155	IX	IN4489	X
IN3156	IX	IN4490	X
IN3157	IX	IN4491	X
IN3644	VI	IN4492	X
IN3645	VI	IN4493	X
IN3646	VI	IN4494	X
IN3647	VI	IN4495	X
IN3671A	IV	IN4496	X
IN3673A	IV	IN4557B	X
IN3766	IV	IN4558B	X
IN3768	IV	IN4559B	X
IN3891	III	IN4560B	X
IN3893	III	IN4561B	X
IN3911	III	IN4562B	X
IN3913	III	IN4565A	IX
IN3993A	X	IN4566A	IX
IN3994A	X	IN4567A	IX
IN3995A	X	IN4568A	IX
IN3996A	X	IN4569A	IX
IN3997A	X	IN4570A	
IN3998A	X	IN4571A	IX
IN3999A	X	IN4572A	IX
IN4000A	X	IN4573A	IX
IN4148-1	I	IN4574A	IX
IN4150-1	I	IN4938-1	I
IN4153-1	I	IN4954	X
IN4370A-1	X	IN4955	X
IN4371A-1	X	IN4956	X
IN4372A-1	X	IN4957	X
IN4454-1	I	IN4958	X
IN4460	X	IN4959	X
IN4461	X	IN4960	X
IN4462	X	IN4961	X
IN4463	X	IN4962	X
IN4464	X	IN4963	X
IN4465	X	IN4964	X
IN4466	X	IN4965	X
IN4467	X	IN4966	X
IN4468	X	IN4967	X
IN4469	X	IN4968	X
IN4470	X	IN4969	X
IN4471	X	IN4970	X
IN4472	X	IN4971	X
IN4473	X	IN4972	X
IN4474	X	IN4973	X
IN4475	X	IN4974	X
IN4476	X	IN4975	X

TABLE XXIX. Numerical listing of diodes, diode arrays, and bridge rectifiers - Continued.

Device type no.	Table	Device type no.	Table
1N4976	X	1N5311	XII
1N4977	X	1N5312	XII
1N4978	X	1N5313	XII
1N4979	X	1N5314	XII
1N4980	X	1N5415	III
1N4981	X	1N5416	III
1N4982	X	1N5417	III
1N4983	X	1N5418	III
1N4984	X	1N5419	III
1N4985	X	1N5420	III
1N4986	X	1N5461B	XI
1N4987	X	1N5462B	XI
1N4988	X	1N5463B	XI
1N4989	X	1N5464B	XI
1N4990	X	1N5465B	XI
1N4991	X	1N5466B	XI
1N4992	X	1N5467B	XI
1N4993	X	1N5468B	XI
1N4994	X	1N5469B	XI
1N4995	X	1N5470B	XI
1N4996	X	1N5471B	XI
1N5139A	XI	1N5472B	XI
1N5140A	XI	1N5473B	XI
1N5141A	XI	1N5474B	XI
1N5142A	XI	1N5475B	XI
1N5143A	XI	1N5476B	XI
1N5144A	XI	1N5551	II
1N5145A	XI	1N5552	II
1N5146A	XI	1N5553	II
1N5147A	XI	1N5554	II
1N5148A	XI	1N5615	III
1N5283	XII	1N5616	II
1N5284	XII	1N5617	III
1N5285	XII	1N5618	II
1N5286	XII	1N5619	III
1N5287	XII	1N5620	II
1N5288	XII	1N5621	III
1N5289	XII	1N5622	II
1N5290	XII	1N5623	III
1N5291	XII	1N5711	I
1N5292	XII	1N5712	I
1N5293	XII	1N5719	I
1N5294	XII	1N5804	III
1N5295	XII	1N5806	III
1N5296	XII	1N5809	III
1N5297	XII	1N5811	III
1N5298	XII	1N5814	III
1N5299	XII	1N5816	III
1N5300	XII	1N6092	XIV
1N5301	XII	1N6093	XIV
1N5302	XII	1N6094	XIV
1N5303	XII	1N6101	VIII
1N5304	XII	1N6103A	XIII
1N5305	XII	1N6104A	XIII
1N5306	XII	1N6105A	XIII
1N5307	XII	1N6106A	XIII
1N5308	XII	1N6107A	XIII
1N5309	XII	1N6108A	XIII
1N5310	XII	1N6109A	XIII

TABLE XXIX. Numerical listing of diodes, diode arrays, and bridge rectifiers - Continued.

Device type no.	Table	Device type no.	Table
IN6110A	XIII	IN6168A	XII
IN6111A	XIII	IN6169A	XIII
IN6112A	XIII	IN6170A	XIII
IN6113A	XIII	IN6171A	XIII
IN6114A	XIII	IN6172A	XIII
IN6115A	XIII	IN6173A	XIII
IN6116A	XIII	IN6391	V
IN6117A	XIII	IN6392	V
IN6118A	XIII	IN6304	III
IN6119A	XIII	IN6305	III
IN6120A	XIII	IN6306	III
IN6121A	XIII	IN6461	XII
IN6122A	XIII	IN6462	XII
IN6123A	XIII	IN6463	XII
IN6124A	XIII	IN6464	XII
IN6125A	XIII	IN6465	XII
IN6126A	XIII	IN6466	XII
IN6127A	XIII	IN6467	XII
IN6128A	XIII	IN6468	XII
IN6129A	XIII	M19500/469-01	VII
IN6130A	XIII	M19500/469-02	VII
IN6131A	XIII	M19500/469-03	VII
IN6132A	XIII	M19500/483-01	VII
IN6133A	XIII	M19500/483-02	VII
IN6134A	XIII	M19500/483-03	VII
IN6135A	XIII	M19500/519-02	XIV
IN6136A	XIII	M19500/520-02	XIV
IN6137A	XIII	M19500/521-02	XIV
IN6139A	XIII	SPA25	VII
IN6140A	XIII	SPB25	VII
IN6141A	XIII	SPC25	VII
IN6142A	XIII	SPD25	VII
IN6143A	XIII		
IN6144A	XIII		
IN6145A	XIII		
IN6146A	XIII		
IN6147A	XIII		
IN6148A	XIII		
IN6149A	XIII		
IN6150A	XIII		
IN6151A	XIII		
IN6152A	XIII		
IN6153A	XIII		
IN6154A	XIII		
IN6155A	XIII		
IN6156A	XIII		
IN6157A	XIII		
IN6158A	XIII		
IN6159A	XIII		
IN6160A	XIII		
IN6161A	XIII		
IN6162A	XIII		
IN6163A	XIII		
IN6164A	XIII		
IN6165A	XIII		
IN6166A	XIII		
IN6167A	XIII		

TABLE XXX. Numerical listing of thyristors.

Device type no.	Table	Device type no.	Table
2N685	XV	2N2323A	XV
2N688	XV	2N2324A	XV
2N690	XV	2N2326A	XV
2N692	XV	2N2328A	XV
2N1774A	XV	2N2329	XV
2N1777A	XV	2N3027	XV
2N1795	XV	2N3028	XV
2N1798	XV	2N3029	XV
2N1800	XV	2N3093	XV
2N1806	XV	2N3095	XV
2N1913	XV	2N3097	XV
2N1916	XV		

TABLE XXXI. Numerical listing of transistors.

Device type no.	Table	Device type no.	Table
2N918	XVII, XXI	2N4857	XXVI
2N2060	XXIII	2N4858	XXVI
2N2151	XIX	2N4948	XXV
2N2219A	XVII	2N4957	XXI, XVIII
2N2222A	XVII	2N5005	XX
2N2359A	XVII	2N5038	XIX
2N2432A	XXVII	2N5039	XIX
2N2484	XVII	2N5109	XIX
2N2605	XVIII	2N5114	XXVI
2N2814	XIX	2N5115	XXVI
2N2857	XXI	2N5116	XXVI
2N2880	XIX	2N5153	XVIII
2N2905A	XVIII	2N5154	XVII
2N2907A	XVIII	2N5157	XIX
2N2920	XXXI	2N5237	XVII
2N2945A	XXVII	2N5241	XIX
2N2946A	XXVII	2N5250	XIX
2N3013	XVII	2N5251	XIX
2N3019	XVII	2N5302	XIX
2N3251A	XVIII	2N5303	XIX
2N3375	XXI	2N5416	XVIII
2N3421	XVII	2N5545	XXVI
2N3439	XVII	2N5546	XXVI
2N3440	XVII	2N5582	XVII
2N3442	XIX	2N5664	XIX
2N3467	XVIII	2N5665	XIX
2N3486A	XVIII	2N5666	XVII
2N3501	XVII	2N5667	XVII
2N3507	XVII	2N5672	XIX
2N3553	XXI	2N5683	XX
2N3585	XIX	2N5684	XX
2N3637	XVIII	2N5685	XIX
2N3700	XVII	2N5686	XIX
2N3716	XIX	2N5745	XX
2N3735	XVII	2N5794	XXIII
2N3737	XVII	2N5796	XXIII
2N3739	XIX	2N6033	XIX
2N3741	XX	2N6051	XXIV
2N3743	XVIII	2N6052	XXIV
2N3762	XVIII	2N6058	XXIV
2N3764	XVIII	2N6059	XXIV
2N3767	XIX	2N6116	XXV
2N3792	XX	2N6283	XXIV
2N3810	XXII	2N6284	XXIV
2N3811	XXXI	2N6286	XXIV
2N3821	XXVI	2N6287	XXIV
2N3822	XXVI	2N6299	XXIV
2N3823	XXVI	2N6301	XXIV
2N3866A	XXI	2N6350	XXIV
2N3868	XVIII	2N6351	XXIV
2N3879	XIX	2N6352	XXIV
2N3960	XVII	2N6353	XXIV
2N3997	XIX	2N6384	XXIV
2N4033	XVIII	2N6385	XXIV
2N4150	XVII	2N6437	XX
2N4261	XVIII	2N6546	XIX
2N4399	XX	2N6547	XIX
2N4449	XVII	2N6603	XXI
2N4854	XXXI	2N6604	XXI
2N4856	XXVI		

TABLE XXXI. Numerical listing of transistors - Continued.

Device type no.	Table	Device type no.	Table
2N6649	XXIV		
2N6650	XXIV		
2N6756	XXVIII		
2N6758	XXVIII		
2N6760	XXVIII		
2N6762	XXVIII		
2N6764	XXVIII		
2N6766	XXVIII		
2N6768	XXVIII		
2N6770	XXVIII		
2N6782	XXVIII		
2N6784	XXVIII		
2N6786	XXVIII		
2N6788	XXVIII		
2N6790	XXVIII		
2N6792	XXVIII		
2N6794	XXVIII		
2N6796	XXVIII		
2N6798	XXVIII		
2N6800	XXVIII		
2N6802	XXVIII		
4N47	XVI		
4N48	XVI		
4N49	XVI		

Custodians:

Army - ER
Navy - EC
Air Force - 17

Review activities:

Army - MI, SM, AT
Navy - SH
Air Force - 11, 85, 99
DLA - ES
NASA - NA

User activities:

Army - None
Navy - AS, CG, OS, MC
Air Force - 19

International Interest (see 6.1).

Preparing activity:
Navy - EC

Agent:
DLA - ES

(Project 5961 - 1006)